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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,983	08/12/2003	Ki-Cheol Lee	5000-1-413	6293
33942	7590	11/08/2007		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER LI, SHI K	
			ART UNIT	PAPER NUMBER
			2613	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/638,983	Applicant(s) LEE ET AL.	
	Examiner Shi K. Li	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9, 10, 12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 3-8, 11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/26/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 August 2007 has been entered.

Allowable Subject Matter

2. The indicated allowability of claims 12 and 15 is withdrawn in view of the newly discovered reference(s) to Horiuchi et al. (U.S. Patent 7,142,787 B2) and Masuda et al. (U.S. Patent 6,678,474 B1). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 12 recites the limitation "the data frame assembler" in lines 1-2 of the claim.

There is insufficient antecedent basis for this limitation in the claim.

6. Claim 12 recites the limitation "the switched packets" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

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7. Claim 12 recites the limitation "the n buffers" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-2, 9-10 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (U.S. Patent 6,701,088 B1) in view of Lahat et al. (U.S. Patent 6,417,944 B1) and Horiuchi et al. (U.S. Patent 7,142,787 B2).

Regarding claims 1-2, Watanabe et al. discloses in FIG. 4 an IP packet transmission equipment comprising a plurality of input ports OBB-11 and OBB-12, a plurality of output ports OBB-21 and OBB-22, add port L11, drop port L21, signal conversion parts 11-1 and 12-1, input interface 13-1, optical switch 14, drop interface 18-1, edge traffic aggregator 16. Watanabe et al. teaches in FIG. 7B that OBB-11 comprises wavelength demultiplexing circuit. Watanabe et al. teaches in FIG. 7A that OBB-12 comprises multiplexing circuit. The differences between Watanabe et al. and the claimed invention are (a) switch controller, (b) buffer in the input interface, and (c) the bit rate of the header and data.

Lahat et al. teaches in FIG. 1 an optical switch comprising optical switch module 14 and input interface/output interface 12. Lahat et al. teaches in FIG. 2 details of the input/output interface which comprises receiver for receiving optical signal and converts the signal into electrical format and memory as buffer. One of ordinary skill in the art would have been motivated to combine the teaching of Lahat et al. with the packet switch equipment of Watanabe et al. because a buffer can be used to adjust the packet rate and avoid contention where packets

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from different input ports, arriving at almost the same time, are being routed to the same output port. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include buffer in the input interface, as taught by Lahat et al., in the packet switch equipment of Watanabe et al. because a buffer can be used to adjust the packet rate and avoid contention.

The combination of Watanabe et al. and Lahat et al. still fails to teach a switch controller. Horiuchi et al. teaches in FIG. 3 an optical switch with a switch controller 48. Horiuchi et al. teaches in FIG. 3 that header information is decoded for controlling the switch. Horiuchi et al. teaches in col. 3, line 65-col. 4, line 3 that the header is of a low speed compared to the payload and the header and payload are based on clock of the same rate, therefore, the higher rate must be a multiple of the lower rate. One of ordinary skill in the art would have been motivated to combine the teaching of Horiuchi et al. with the modified packet switch equipment of Watanabe et al. and Lahat et al. because by sharing the same clock the payload and header are easily synchronized. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the same clock to derive the data rate for header and payload, as taught by Horiuchi et al., in the modified packet switch equipment of Watanabe et al. and Lahat et al. because by sharing the same clock the payload and header are easily synchronized.

Regarding claims 9-10 and 18, Lahat et al. teaches in FIG. 2 receiver, buffer, transmitter for the output interface. The ATM layer cell processor updates the header information.

Regarding claim 17, it is well known in the art that IP packets can have variable header length and the header-length field must be decoded to determine and length of the header.

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10. Claims 12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al., Lahat et al. and Horiuchi et al. as applied to claims 1-2 and 9-10 above, and further in view of Masuda et al. (U.S. Patent 6,678,474 B1).

Watanabe et al., Lahat et al. and Horiuchi et al. have been discussed above in regard to claims 1-2, 9-10 and 17-18. The difference between Watanabe et al., Lahat et al. and Horiuchi et al. is that Watanabe et al., Lahat et al. and Horiuchi et al. do not teach the details of a frame structure. Masuda et al. teaches in FIG. 2 an edge router. Masuda et al. teaches in FIG. 10 that the edge router aggregates packets to form superframe based on destination address. One of ordinary skill in the art would have been motivated to combine the teaching of Masuda et al. with the modified packet switching equipment of Watanabe et al., Lahat et al. and Horiuchi et al. because aggregation of packets into superframe based on destination address reduce waste of capacity due to overhead. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to aggregate packets into superframes, as taught by Masuda et al., in the modified packet switching equipment of Watanabe et al., Lahat et al. and Horiuchi et al. because aggregation of packets into superframe based on destination address reduce waste of capacity due to overhead.

Allowable Subject Matter

11. Claims 3-8, 11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

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12. Applicant's arguments with respect to claims 1-2, 9-10, 12 and 14-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (7:30 a.m. - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl
5 November 2007



Shi K. Li
Primary Patent Examiner